

In addition to the quarterly residential hauler surveys discussed above, SWALCO also conducts an annual survey of other recycling operations in Lake County. Additional quantities of residential waste are recycled through special collection programs (e.g., household chemical waste, electronics collections events) and self-hauled by residents to scrap yards. SWALCO estimates that 19,138 tons of recyclable materials were collected by special collection programs and scrap yards in 2007, and 19,384 tons in 2008, amounting to 0.15 pcd of material. This additional recycling was added to the generation rates derived from the hauler collected waste to yield final residential waste generation rates:

Residential Waste Generation - Hauler Collected Waste and Special Collections/Self-Haul

$$\begin{array}{rclcl} 2007 & = & 3.85 \text{ pcd} + 0.15 \text{ pcd} & = & 4.00 \text{ pcd} \\ & = & 2.72 \text{ pcd (disposed)} + 1.28 \text{ pcd (diverted)} & & \\ \\ 2008 & = & 3.69 \text{ pcd} + 0.15 \text{ pcd} & = & 3.84 \text{ pcd} \\ & = & 2.66 \text{ pcd (disposed)} + 1.18 \text{ pcd (diverted)} & & \end{array}$$

These residential generation rates are higher than reported for Lake County in the 1989 Plan (3.2 pounds/capita/day) and the 2004 Plan Update (2.53 pounds/capita/day). Including the special collections and self-hauled recyclables increased the residential diversion rate to 31-32 percent.

2.4.2 Commercial Waste Generation

The commercial waste category consists of waste generated by businesses, governmental agencies and institutions within the planning area. Commercial waste also includes industrial lunchroom and office waste, but excludes special waste generated by manufacturing operations.

Commercial waste generators typically contract with private haulers for refuse collection service. Municipalities in the SWALCO planning area historically have not assumed responsibility for commercial waste collection (although Highwood and Highland Park have implemented commercial waste franchise agreements, under which a single hauler collects refuse from most commercial establishments in those cities).

Obtaining estimates of commercial waste for each member community by surveying the private haulers directly is difficult because commercial waste is typically collected by several private haulers in each community (whereas residential waste is typically collected by a single hauler). Moreover, private haulers may cross municipal boundaries on their collection routes, making it difficult for them to provide separate estimates of commercial waste quantities by municipality.

Under the Lake County Solid Waste Hauling and Recycling Ordinance, haulers are required to report quantities of residential, commercial and construction and demolition waste collected in Lake County as a whole to SWALCO twice per year. The haulers are also asked to provide the amounts of waste recycled, composted and disposed for each of the three waste streams (i.e., residential, commercial, etc.)



As noted previously, the tons of waste reported under this survey have varied substantially, ranging from 317,000 tons in 2004 to 730,000 tons in 2008¹. This may be due to inconsistent reporting by haulers or non-responsiveness to the survey (SWALCO has not received information from all of the licensed haulers in any year of the survey). Estimating commercial waste generation rates is challenged by these widely varying waste quantities. Further, because the response rate has been less than 100 percent, commercial waste quantities have likely been underestimated.

In order to address the inconsistent reporting in the hauler survey, a comprehensive investigation of landfill disposal tonnages for the Chicago metropolitan area (inclusive of the SWALCO planning area) was performed (refer to Attachment F). Landfills are required to report annual disposal tonnages to the IEPA (or equivalent regulatory bodies in neighboring states), and since they are equipped with scales and typically pay local and state surcharges based on the tonnage accepted, the data reported by landfills is judged to be an accurate measure of disposal quantities. Indeed, as shown in Attachment F, reported landfill disposal tonnages exhibit significantly lower variability from year to year versus the hauler survey data.

Based on the analysis of landfill data, it is estimated that the SWALCO planning area disposed of 7.18 pcd of municipal solid waste in 2007, and 6.34 pcd of municipal solid waste in 2008. Note that this includes residential waste as well as commercial waste and construction/demolition (C/D) waste. As a result, the residential disposal rates discussed previously must be subtracted to derive a commercial waste disposal rate:

Combined Commercial Waste and C/D Waste (Disposed)

2007	=	7.18 pcd - 2.72 pcd	=	4.46 pcd
2008	=	6.34 pcd - 2.66 pcd	=	3.68 pcd

These rates must be further adjusted to remove the C/D component. The landfill disposal data reported to the IEPA does not contain a breakdown of how much of the total incoming waste is C/D debris. Based on the waste quantities reported to SWALCO by haulers for the year 2008, C/D debris accounted for approximately 15 percent of the municipal solid waste that was reported to have been landfilled. Although it was noted earlier that waste quantities reported under the hauler survey fluctuate significantly from year to year and underestimate the amount of waste disposed, the survey data can provide an estimate of the relative fraction of the disposed waste attributable to C/D waste².

C/D Waste Disposed

2007	=	7.18 pcd x 0.15	=	1.08 pcd
2008	=	6.34 pcd x 0.15	=	0.95 pcd

¹ As part of this Plan Update, additional efforts were made by SWALCO staff to obtain more accurate responses for the survey year 2008, but data was not obtained from all of the licensed haulers.

² The 1989 Plan estimated that C/D waste accounted for approximately 20 percent of disposed waste. A recent statewide waste characterization study estimated that approximately 9 percent of the waste disposed by Illinois is C/D waste (CDM, *Illinois Commodity/Waste Generation and Characterization Study*, May 22, 2009). The 15 percent estimated for C/D waste based on the hauler survey falls within this range.

Subtracting these values from the disposal rates for combined commercial waste and C/D waste yields the following estimates of commercial disposal rates:

Commercial Waste Disposed

$$2007 = 4.46 \text{ pcd} - 1.08 \text{ pcd} = 3.38 \text{ pcd}$$

$$2008 = 3.68 \text{ pcd} - 0.95 \text{ pcd} = 2.73 \text{ pcd}$$

Note that these values represent the per capita quantity of commercial waste disposed. To estimate the commercial waste generation rate, the amounts of commercial waste recycled must be taken into account. As noted previously, SWALCO conducts an annual survey of recycling operations in Lake County. SWALCO estimates that 224,306 tons of commercial waste was recycled in 2007, corresponding to 1.78 pcd of material. For 2008, 191,685 tons of commercial waste was recycled, corresponding to 1.51 pcd of material. This recycling was added to the commercial disposal rates to yield commercial waste generation rates:

Commercial Waste Generated

$$2007 = 3.38 \text{ pcd} + 1.78 \text{ pcd} = 5.16 \text{ pcd}$$

$$2008 = 2.73 \text{ pcd} + 1.51 \text{ pcd} = 4.24 \text{ pcd}$$

Based on this data, commercial waste diversion rates ranged from 35-36 percent.

2.4.3 Construction/Demolition Waste Generation

Disposal rates for construction/demolition debris were calculated previously. Based on its survey of recyclers in Lake County, SWALCO estimates that 143,572 tons of C/D material was recycled in 2007, corresponding to 1.14 pcd of material. In 2008, 127,127 tons of C/D material was recycled, corresponding to 1.00 pcd of material.

Of the total amount of C/D material recycled in 2007, 93,544 tons (or 65 percent) was attributed to the Great Lakes Navy facility. In 2008, the facility recycled 59,931 tons of C/D waste (47 percent of total C/D recycling in the County). The amount of C/D waste reported by the Navy as recycled has fluctuated since SWALCO began accounting for the material in 2003 (110 tons in 2003; 57,598 tons in 2004; and 1,410 tons in 2006). These fluctuations suggest the recycling activity is project-related. Over the five years, average recycling of C/D waste at the Great Lakes facility amounted to 42,519 tons.

If this average amount is used instead of the 93,544 tons reported for 2007, the corresponding diversion rate for C/D waste is 0.73 pcd (versus 1.14 pcd as noted above). For 2008, the adjusted diversion rate for C/D waste is 0.86 pcd (versus 1.00 pcd as noted above). These appear to be more reasonable estimates of C/D waste diversion.

Construction/Demolition Waste Generated

$$2007 = 1.08 \text{ pcd} + 0.73 \text{ pcd} = 1.81 \text{ pcd}$$

$$2008 = 0.95 \text{ pcd} + 0.86 \text{ pcd} = 1.81 \text{ pcd}$$



2.4.4 Other Landscape Waste

The data in Table 2.4 suggest that 52,524 tons of residential landscape waste was collected by haulers in 2007 (note: Table 2.4 indicates that 38,100 tons of landscape waste were collected from 40 of the 49 municipalities in the planning area; extrapolating this to the entire population of Lake County results in the estimate of 52,524 tons).

According to the SWALCO survey of recycling operations (including compost facilities in the County), a total of 77,197 tons of landscape waste was diverted by Lake County in 2007. This amount exceeds the 52,524 tons of estimated hauler-collected residential landscape waste. The difference may be attributable to yard waste collected by landscape companies (as opposed to waste haulers) from residential and commercial sources. Because the SWALCO recycling survey did not address the origin (i.e., residential or commercial) of the landscape waste, the additional 24,673 tons (= 77,197 tons - 52,524 tons) of diverted material is reported separately from residential and commercial waste generation, corresponding to 0.20 pcd of other landscape waste.

For 2008, haulers are estimated to have collected 43,960 tons of residential landscape waste (32,473 tons as reported by the 40 communities in Table 2.5, extrapolated to the entire population of Lake County). The SWALCO recycling survey estimated that 78,488 tons of landscape waste was diverted by Lake County in 2008. The amount of waste attributed to landscapers is therefore 34,528 tons (= 78,488 tons - 43,960 tons), corresponding to 0.27 pcd of other landscape waste.

Other Landscape Waste

2007 = 0.20 pcd

2008 = 0.27 pcd

2.4.5 Industrial Process Waste/Special Waste

The analysis of landfill disposal data contained in Attachment F presents two estimates of per capita waste disposal: municipal solid waste, which includes residential, commercial, construction/demolition and industrial lunchroom and office waste; and total waste, which includes special waste in addition to municipal waste. The amount of special waste is calculated by subtracting municipal solid waste from the total waste:

Special Waste

2007 = 7.58 pcd - 7.18 pcd = 0.40 pcd

2008 = 6.80 pcd - 6.34 pcd = 0.46 pcd

2.4.6 Summary Waste Generation

Total and municipal solid waste generation rates for 2007 and 2008 are summarized in Table 2.6. The generation rates from the 2004 Plan Update are also presented for comparison.

TABLE 2.6 WASTE GENERATION RATES			
	2004 Plan Update	2007	2008
Municipal Solid Waste			
Residential	2.53 pcd	4.00	3.84
Commercial	3.37 pcd	5.16	4.24
Construction/Demolition	1.62 pcd	1.81	1.81
Other Landscape	-	0.20	0.27
Subtotal	7.52 pcd	11.17	10.16
Non-Municipal Solid Waste			
Industrial Process / Special Waste	1.26 pcd	0.40	0.46
Total			
Total Solid Waste	8.78 pcd	11.57	10.62

Although generation rates are higher than last reported in the 2004 Plan Update, as was noted previously a comprehensive review of waste generation in Lake County has not been performed since the original Plan was adopted in 1989. For comparison purposes, the IEPA performs an annual survey of county recycling coordinators to collect information on municipal waste generation. The results of these surveys are summarized in the IEPA's Annual Capacity Reports. Recent annual capacity reports have indicated average Illinois municipal waste generation of 10.7 pcd (2005), 10.8 pcd (2006) and 9.7 pcd (2007). In reporting to the IEPA, many counties are relying on data that dates back to the early 1990s and hasn't been subsequently updated.

Estimates of aggregate quantities of municipal waste and total waste generated by the SWALCO planning area and Lake County are presented in Table 2.7.

TABLE 2.7 WASTE GENERATION QUANTITIES				
	2007		2008	
	Planning Area	County	Planning Area	County
Municipal Solid Waste				
Residential	479,806	504,147	465,183	488,589
Commercial	618,949	650,349	513,639	539,484
Construction Demolition	217,112	228,126	219,266	230,299
Other Landscape	23,990	25,207	32,708	34,354
Subtotal	1,339,857	1,407,830	1,230,796	1,292,726
Non-Municipal Solid Waste				
Industrial Process/Special Waste	47,981	50,415	55,725	58,529
Total				
Total Waste	1,387,838	1,458,245	1,286,521	1,351,255
Notes:				
1. Planning area population = 657,268 (2007) and 663,788 (2008). County population = 690,612 (2007) and 697,188 (2008).				



2.5 Waste Management Methods

Table 2.8 summarizes the methods by which Lake County waste was managed in 2007 and 2008.

TABLE 2.8 LAKE COUNTY WASTE HANDLING METHODS		
	2007 (tpy)	2008 (tpy)
Residential		
Generated	504,147	488,589
Recycled	108,392	105,607
Composted	52,935	44,533
Disposed	342,820	338,450
Diversion (%)	32%	31%
Commercial		
Generated	650,349	539,484
Recycled	224,345	192,128
Disposed	426,004	347,356
Diversion (%)	35%	36%
Construction / Demolition		
Generated	228,126	230,299
Recycled	92,007	109,424
Disposed	136,120	120,875
Diversion (%)	40%	48%
Other Landscape Waste		
Composted	25,207	34,354
Municipal Waste		
Generated	1,407,830	1,292,726
Recycled	424,744	407,158
Composted	78,143	78,887
Disposed	904,943	806,681
Diversion (%)	36%	38%
Industrial Process/Special Waste		
Disposed	50,415	58,529
Total Waste		
Generated	1,458,245	1,351,255
Recycled	424,744	407,158
Composted	78,143	78,887
Disposed	955,358	865,210
Diversion (%)	35%	36%

The diversion rates estimated in this study are lower than SWALCO previously reported to the IEPA (44 percent in 2006 and 55 percent in 2007) primarily because this study estimates a higher waste generation rate for Lake County than was assumed in the 2004 Plan Update. As was noted earlier, the 2004 Plan Update was based on waste generation rates developed for the 1989 Plan, adjusted (in many years downward) by national-level estimates of growth (or decline) in waste generation as published in USEPA reports³. The total waste generation rate used in the 2004 Plan Update (8.78 pcd) is essentially flat from that estimated in the 1989 Plan (8.5 pcd). Notwithstanding the current recession, the 1990s and 2000s were generally characterized by an expanding economy, which plausibly would lead to greater waste generation.

The Illinois Recycling Association and Illinois Department of Commerce and Economic Opportunity commissioned a study in 2008 of waste generation in Illinois⁴. That study utilized the "materials flow" approach to estimating waste generation, in which national-level industry production data is used to estimate the weight of materials and products that are present in the waste stream (the same approach used in the USEPA reports noted above). The IRA/DCEO study estimated a per capita municipal waste generation rate of 8.1 pcd. Although this is superficially similar to the waste generation rate used in the 2004 Plan Update, the IRA/DCEO study concluded, after considering the quantities of Illinois waste landfilled (as has been done in this 2009 Plan Update), that the overall waste diversion rate in Illinois is 19 percent, as opposed to the average of 39 percent reported by county recycling coordinators to the IEPA in 2007. As a result, there is one of two conclusions that can be drawn:

1. Municipal waste generation is approximately 8.1 pcd, in which case counties (including Lake) are substantially over reporting the amount of waste which is recycled; or
2. Municipal waste generation is higher than 8.1 pcd (as indicated in this study).

2.5.1 Current Waste System

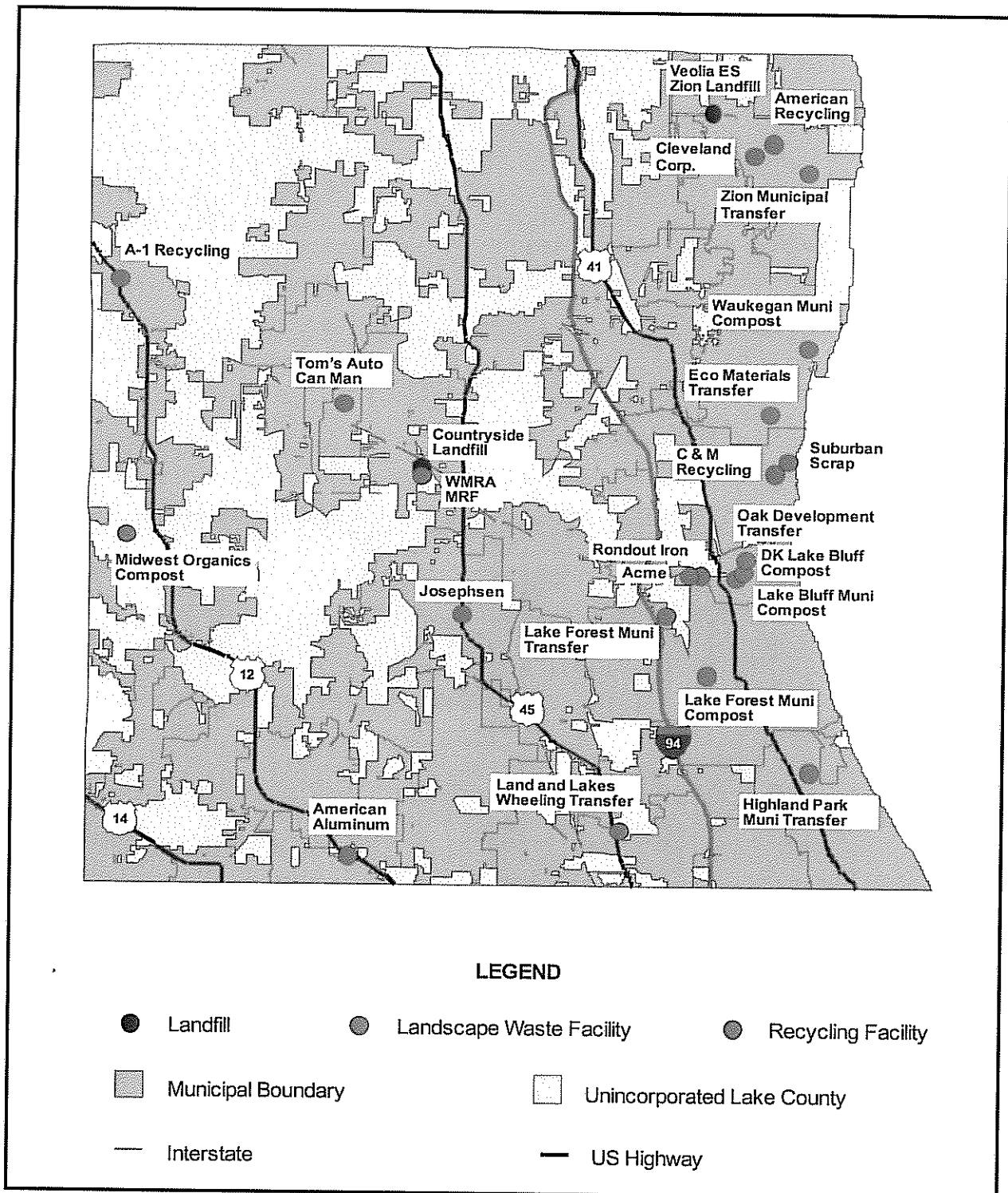
Lake County and SWALCO communities rely on a number of facilities to manage their waste (refer to Figure 2.3). The SWALCO annual recycling survey for 2008 indicated that 11 scrap yard facilities located in the County recycled approximately 117,000 tons of material. Three brokers, one large retailer and one large industry accounted for 64,000 tons of recyclables -- these materials were likely direct shipped to end user markets. The Waste Management MRF in Grayslake reported handling 140,000 tons of material, some of which may originate from outside of Lake County. Three construction/demolition debris processors reported 51,000 tons of recycling from Lake County (American Recycling in Zion, MBL Recycling in Palatine, and K. Hoving in West Chicago). The Great Lakes Naval Center reported recycling 60,000 tons -- this C/D material was managed on-site at the facility.

Unlike landfills, transfer stations and compost facilities, recycling facilities typically do not report the amount of material handled or capacity information to the IEPA or other government authorities.

³ USEPA publishes an annual report entitled *Characterization of MSW in the United States* that estimates waste generation at the national level.

⁴ CDM, *Illinois Commodity/Waste Generation and Characterization Study*, May 22, 2009.

FIGURE 2.3 LAKE COUNTY SOLID WASTE FACILITIES



The SWALCO recycling survey estimated that 78,488 tons of landscape waste was composted in 2008 at 7 sites. Information on these facilities is summarized in Table 2.9.

TABLE 2.9 LANDSCAPE WASTE COMPOST FACILITY INFORMATION				
Facility	Tons Received (2008)		Permitted Throughput	
	Lake County	Total	(cubic yards)	(tons)
DK Lake Bluff	2,459	2,459	25,000	6,750
Lake Bluff Municipal #2	1,232	1,232	6,800	1,840
Lake Forest	3,931	3,931	20,000	5,400
Thelan Sand & Gravel	57,061	81,516	28,000	7,560
Waukegan	3,400	3,400	270,000	72,900
Midwest Organics	9,176	10,196	55,000	14,850
Land and Lakes #5	1,230	1,230	384,000	103,680
Total	78,488	103,964	788,800	212,980
Notes:				
1. Permitted throughputs (cubic yards) obtained from IEPA, <i>Nonhazardous Solid Waste Management and Landfill Capacity in Illinois: 2007</i> , November, 2008. A conversion factor of 0.27 tons per cubic yard was used to convert the volume caps into approximate tonnage caps.				

Lake County has disposal capacity agreements with three landfills: Countryside, Veolia ES Zion Landfill, and Pheasant Run RDF. Capacity and throughput information on these three facilities is provided in Table 2.10.

TABLE 2.10 LANDFILL CAPACITY INFORMATION					
Facility	Capacity (01/01/09)		Throughput (2008)		Remaining Life (Years)
	Gate Cu.Yds.	Tons	Gate Cu. Yds.	Tons	
Countryside	16,708,960	5,063,321	1,761,647	533,832	9.5
Veolia ES Zion	10,536,467	3,192,869	2,167,940	656,952	5.0
Pheasant Run	3,839,458	1,163,472	2,620,975	794,235	1.5
Notes:					
1. Source: IEPA Capacity Certification forms and Wisconsin Department of Natural Resources. Capacities reported to IEPA in gate cubic yards converted to tons using IEPA conversion factor of 3.3 gate cubic yards per ton. Capacities reported to WDNR in airspace cubic yards converted to tons using an in-place density of 1,400 pounds per cubic yard and assuming a cover factor of 10 percent. Capacity in tons converted to gate cubic yards using the conversion factor of 3.3 gate cubic yards per ton.					

Veolia also reported that 28,551 tons of Lake County waste was transferred through its Northbrook transfer station before being disposed at the Zion Landfill. Veolia estimates that approximately 30 percent of the waste handled at the Northbrook transfer station originates in Lake County.

2.6 Waste Composition

Although the 2009 Plan Update utilizes a different approach to estimating waste quantities than the IRA/DCEO study referenced earlier, the latter study does provide field-collected data on the composition of waste that is landfilled in Illinois. As part of the IRA/DCEO study, samples of waste from each of the two landfills in Lake County were sorted into constituent components. The results of the composition study are summarized in Table 2.11. Generally, it appears that the composition of waste disposed in Lake County is similar to other areas of the state.

TABLE 2.11 COMPOSITION OF LANDFILLED WASTE (BY WEIGHT)

Material	Lake County Landfills	Urban County Average	Illinois Average
Paper	21.6%	24.9%	26.2%
Newspaper	2.0%	2.8%	3.1%
Corrugated	6.3%	10.8%	11.0%
Other Paper	13.3%	11.3%	12.2%
Plastic	19.4%	13.7%	14.4%
#1 - #7 Containers	3.5%	3.8%	4.0%
Plastic Film	5.3%	4.2%	4.8%
Other Plastic	10.6%	5.7%	5.6%
Glass	2.2%	3.1%	3.2%
Metal	5.2%	4.7%	5.3%
Aluminum Cans	0.4%	0.4%	0.4%
Tin Cans	1.1%	1.0%	1.1%
Other Metal	3.7%	3.3%	3.9%
Organics	18.2%	21.5%	22.2%
Yard Waste	3.6%	3.2%	2.8%
Food Scraps	8.9%	13.1%	13.4%
Other Organic	5.7%	5.2%	6.0%
Inorganics	4.2%	2.9%	2.6%
Computers/Electronics	4.1%	1.5%	1.4%
Appliances	0.0%	0.0%	0.0%
Tires	0.0%	0.2%	0.2%
Other Inorganic	0.1%	1.2%	1.0%
Textiles	10.5%	8.8%	7.7%
HHW	0.2%	0.5%	0.5%
Construction/Demolition	18.4%	20.0%	18.0%
Wood	13.3%	11.4%	10.0%
Other	5.1%	8.6%	8.0%
Total	100.0%	100.1%	100.1%
# Samples	27	252	315
Source: 1. CDM, Illinois Commodity/Waste Generation and Characterization Study, May 22, 2009.			

Table 2.12 shows a comparison of the results of the 2008 composition study versus a prior study conducted at Lake County landfills in 1993. The earlier study sorted waste materials into 27 categories, whereas the 2008 study sorted waste materials into 79 categories. The 1993 study included two categories ("other combustibles" and "other non-combustibles") that were combined and reported as "other" in Table 2.12. Material components in the 2008 study which did not readily correspond to the components in the 1993 study were assigned to the "other" category in Table 2.12 -- this explains why "other" materials are twice as large in the 2008 study.

TABLE 2.12 WASTE COMPOSITION AT LAKE COUNTY LANDFILLS (BY WEIGHT)

Material	1993 Study	2008 Study
Newsprint	8.4%	2.0%
High-Grade Paper	2.0%	3.2%
Other Recyclable Paper	11.4%	4.3%
Other Paper	8.9%	5.9%
Corrugated	10.6%	6.3%
Glass Containers	4.7%	2.2%
HDPE Containers	1.0%	0.7%
PET Bottles	0.4%	1.4%
PVC Containers	0.1%	0.8%
Polystyrene	0.8%	0.7%
Polyethylene Film	4.0%	5.3%
Other Plastic	4.4%	10.6%
Aluminum Cans	0.9%	0.4%
Tin and Bi-Metal	1.5%	1.1%
Other Aluminum	0.3%	1.5%
Other Ferrous	3.2%	1.8%
Other Non-Ferrous	0.5%	0.4%
Wood	3.7%	13.3%
Textiles, Rubber, Leather	4.7%	10.5%
Disposal Diapers	3.1%	2.0%
Food Waste	13.2%	8.9%
Grass Clippings	0.3%	1.1%
Other Landscape Waste	3.1%	2.5%
Fines	2.8%	0.0%
Household Batteries	0.1%	0.1%
Other	6.0%	13.1%
Total	100.1%	100.0%
# Samples	90	27

Source:

1. CDM, *Illinois Commodity/Waste Generation and Characterization Study*, May 22, 2009. Data are for samples of waste sorted at Lake County landfills.
2. CDM, *Final Report of Municipal Solid Waste Characterization Study for Solid Waste Agency of Lake County*, November 2, 1993.

Because a larger number of samples were sorted in the 1993 study, some care must be taken in comparing the results of the two studies. Further, the 1993 study conducted sorts over three seasons versus a single season for the 2008 study. Nonetheless, it would appear that commonly recycled materials such as newsprint, corrugated, aluminum cans, tin cans and glass containers are less prevalent in the 2008 landfilled waste, suggesting that these materials are being removed by recycling programs in Lake County.

2.7 Recommendations

Based on analysis of the various sources of waste data reviewed in preparing the 2009 Plan Update, the following recommendations are made concerning the future collection and tracking of such data:

1. Apply greater effort to secure complete responses from all licensed haulers under the County's Solid Waste Hauling and Recycling Ordinance.
2. Review hauler responses individually and in aggregate for consistency with survey data from prior years. Quality assurance is an important component of an effective survey program.
3. Add additional questions to the existing hauler survey forms to obtain information on the destination of collected waste materials (including recyclables and landscape waste). Conduct additional surveying of solid waste facilities (e.g., transfer stations, construction/demolition debris processing facilities) located near to, but outside of Lake County's boundaries) to further document quantities of Lake County waste handled at those facilities.
4. Consider reducing the frequency of hauler reporting to once per year to reduce the administrative effort of haulers and facilitate a larger response rate. Meet with haulers to obtain their feedback on improving the data collection process.
5. Review and amend the County's Solid Waste Hauling and Recycling Ordinance to reflect any changes to the County's survey program
6. Continue to track landfill disposal rates as described in Appendix A. These data have shown less year-to-year variability than disposal data collected through hauler surveys, and there is an established historical database of such data. The response rate of landfills has been 100 percent.
7. Meet with solid waste staff from other counties in the metropolitan area to obtain their feedback on improving the data collection process and discuss methods to standardize data collection efforts.
8. Support legislation to require all solid waste facilities (including transfer stations, recycling facilities, and construction/demolition processing facilities) to report annual waste quantities to the IEPA.

SECTION 3 IMPLEMENTATION STATUS OF THE 2004 PLAN UPDATE

The 2004 Plan Update was adopted by the Lake County Board on November 9, 2004 and has acted as an important policy document and benchmark for Lake County's overall solid waste management program. As Lake County transitions to its 2009 Plan Update it is important to review the progress made in implementing the recommendations contained in the 2004 Plan Update. This section provides such a review by listing each of the 2004 Plan Update recommendations and commenting on the implementation status of each recommendation.

3.1 Implementation Status

Table 3.1 contains a listing of the recommendations contained in the 2004 Plan Update with respect to the following major plan components:

- Public Information and Education
- Recycling
- Household Chemical Waste Management
- Landfilling
- Emerging Technologies
- Organization and Administration
- Finance and Ownership
- Legislative Initiatives
- Host Community Benefit Agreements

For each listed recommendation information has been provided as to whether the recommendation was implemented or not during the past five years. Additional comments have also been provided for many of the recommendations.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations

Public Information and Education	Recommendation	Status of Implementation
P1	Identify new and support ongoing activities of SWALCO's public information and education programs to encourage waste reduction, reuse, recycling and recovery (buying recycled products) through SWALCO's websites and other publications, as well as community organizations such as PTA/PTO's, park districts and church groups.	Implemented. New Updated website with new pages and information. Green Days, an online website guide with articles on a number of environmental topics, especially those related to the 4Rs. Written articles for member newsletters and websites. Created Recycle-O-Rama event to encourage recycling, waste reduction, reuse and buying recycled. Worked with park districts, church groups, schools, corporate groups and other community organizations on the Reuse-A-Shoe program. Opportunity for many not familiar with SWALCO to learn more about the agency and recycling/waste reduction. This program reaches thousands of people in the Lake County community with everyone from teachers to local businesses to legislators working with SWALCO. Expanded the Earth Day Open House - invited new vendors, more outreach to the community and more activities.
P2	Continue to provide in-house marketing support to help publicize SWALCO technical programs, such as the household chemical waste collections and recycling programs.	Implemented. Created and distributed various flyers, posters, brochures and articles to help publicize SWALCO programs. Worked with local media and newspapers. Attended community events with a variety of these materials. Communicate in various ways with our member communities (Member Service Bulletins, Special Informational Emails. Interviewed on local cable TV programs to send out info about SWALCO and its programs. Also utilized two email-list services to provide information about programming.
P3	Continue to encourage SWALCO members to design, evaluate and distribute information for residents regarding various solid waste management issues, and to inform SWALCO of waste-related activities within their communities.	Implemented. Worked closely with members. Stayed in touch via phone calls, emails, special articles, member service bulletins, discussions at Board meetings, etc. Provided ready-to-go articles and news bits for their newsletters and websites to make it convenient for them. Provided special posters and flyers for members to post. many members did not have links on their websites to SWALCO -- Encouraged them to add these links for their members -- most of our members added these links and have regular announcements and articles in their newsletter, website and email-list services.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

P4	Develop partnerships with the business community, waste hauler, institutions, service and professional organizations and governmental entities to expand the outreach potential for focused educational efforts.	Implemented. Reached out and worked with community groups and businesses via Reuse-A-Shoe program. Also provided information to those contacts regarding SWALCO's other programs. Given talks and presentations and set up informational displays and booths for a variety of community organizations and businesses, providing information and answering questions. Partnered with Waste Management Recycle America (WMRA) on Earth Day Open House and other workshops for students and teachers. Worked with and was a member of other educational and PR groups in Lake County. Also worked with groups from Lake County Government as part of the PIO group with Communications and other LC Departments. Worked with Health Department and others on special projects, including the Pharmaceutical Education project which helped to promote SWALCO's HCW program.
P5	Continue to support and evaluate school education outreach efforts that meet Illinois Learning Standards, such as the Lake County Earth Flag Program, the Earth Flag Everyday supplemental program, the educational website, subsidized performances by environmental educators and in-class presentations.	Implemented. Coordinated/implemented the Earth Flag and Earth Flag Everyday programs, working with a number of Lake County Schools. Guided efforts and offered resources for teaching the 4Rs. Provided subsidized performances by environmental educators to reinforce and celebrate the good work we did together.
P6	Identify and utilize applicable public and school education resources to develop customized activities for Lake County.	Implemented. Worked with educational alliance group in Lake County. Worked with Regional Office of Education. Also worked with local libraries. Continue to collect information and resources to share with schools (K-12).
P7	Develop a communication plan for SWALCO that encompasses branding, advertising and other promotional efforts, and evaluate it on a yearly basis.	Implemented. Developed new flyers, certificates, brochures, etc. with new and consistent messaging. Heavily promoted the website and the email-list services, including one specifically for educators. Developed contact lists and worked with local PR groups.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

P8	Continue to embrace and incorporate new information technologies in SWALCO's promotional efforts (e.g., websites, email services, etc.).	Implemented. New Website launched. Two email-list services. Also developed relationships with and worked with member communities to utilize their email serves and other promotional tools. Always looking for new social media tools to help promote programs and projects.
P9	Continue to support the EduCycle Center in Grayslake through grants, staff support and possible expansion efforts.	Implemented. Have partnered with WMRA on programs, Earth Day events, workshops, workshops for teachers. Have promoted them and encouraged any school groups SWALCO is working with to tour the facility, etc. WMRA has offered their facility for the final drop-off/collection of shoes for Reuse-A-Shoe. SWALCO staff stops out occasionally throughout the year to observe tours, share information and support efforts.
P10	Investigate opportunities for public outreach at special events (e.g. Lake County Fair).	Implemented. Participated at a variety of community events, (presentations, open houses, health & safety fairs, Lake County Fair), etc. Also attended special member events throughout each year. Presented and spoke at a number of community events.
P11	Establish crisis communication procedures so that SWALCO is viewed as a credible point of contact during emergency events and interruptions of service (e.g. garbage strikes, post-tornado debris management).	Partially implemented. Have provided applicable information and resources after flooding and other county events/incidents, working with Health Department, Communications, etc. Resource and information provided during garbage strikes and when other waste-hauling/disposal issues arose.
Recycling	Recommendation	Status of Implementation
R1	Maintain and expand collection of data on recycling activity in Lake County. Identify significant recycling data points that reflect changes in recycling activity in Lake County and develop programming that fosters increased diversion of recyclable materials.	Implemented. Continue to collect and refine collection data while focusing attention on segments that can lead to increased diversion (i.e. C&D and food scraps)

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

P8	Continue to embrace and incorporate new information technologies in SWALCO's promotional efforts (e.g., websites, email services, etc.).	Implemented. New Website launched. Two email-list services. Also developed relationships with and worked with member communities to utilize their email serves and other promotional tools. Always looking for new social media tools to help promote programs and projects.
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Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

R2	Continue to expand recycling programs to achieve a 50% recycling goal for all subsequent years.	Implemented. Exceeded the 50% goal in years 2007 and 2008. (Note: with the findings presented in Section 2 regarding Lake County's overall recycling rate, the estimated recycling rate in Lake County is now 38% of the municipal waste generated.)
R3	Continue to support area recyclers in activities that expand their capabilities of diverting marketable materials from landfills when feasible.	Implemented. Staff continues to reach out to known recyclers and assist as necessary.
R4	Assist the County with modifications to its Recycling Ordinance requiring all waste haulers operating within Lake County to offer volume based pricing for residential refuse collection services and make recycling available to all residential, multi-family and commercial customers.	Implemented. County Waste Hauling and Recycling Ordinance was modified in 2005. The Agency continues to recommend that members include volume based pricing and multi family service into bids.
R5	Encourage all SWALCO members to establish volume based pricing and utilize a full cost accounting model in their analysis of waste costs.	Partially implemented. Some members use volume based pricing, however full cost accounting models have not yet been attempted.
R6	Encourage all SWALCO members to implement cart-based recycling programs within their residential areas.	Partially implemented. As of May 2009, twenty-four members and three townships have implemented cart-based recycling programs.
R7	Assist SWALCO members in franchising commercial refuse service as a means to reduce costs and increase recycling.	Implemented. Staff has conducted pre franchise surveys for several members. The second County franchise (City of Highwood has a commercial franchise as well) was implemented in the City of Highland Park in 2009.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

R8	Continue to encourage all SWALCO members to adopt the model commercial and multi-family refuse and recycling enclosure ordinance.	Implemented. A model ordinance has been provided to all members and several members have enrolled this ordinance into their UDO.
R9	Encourage SWALCO members to adopt a model C&D recycling ordinance that would require the implementation of a recycling program at new construction sites within their communities.	Partially implemented. A model C&D recycling ordinance has been developed and provided to members to adopt.
R10	Participate in the EPA Waste Wise Program and encourage commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities to participate in source reduction activities.	Not yet implemented due to limitations of staff time. Staff would still like to establish this program to fulfill the need to acknowledge the positive efforts made in the commercial and industrial sectors of the county while also networking and educating others of the benefits of waste reduction and recycling activities.
R11	Depending on availability of funds and agency priorities, continue to further the development of source reduction programs, compost bin distributions and residential electronics collections along with commercial and multi-family pilot programs.	Partially implemented. Limited funds were available to assist in subsidizing the cost of a limited number of compost bins which were sold via third party not-for-profit organizations. Limited funds were made available to support the expansion of the residential electronics collection program which operates under a no-cost contract between the Agency and Sims Recycling Solutions. No funding has been directed to support the continuation of the Multi Family Pilot Program
R12	Continue to maintain the MRF contract with Recycle America Alliance to assure that sufficient capacity is available to SWALCO members along with assuring that SWALCO members that direct material to the facility do not incur processing charges.	Implemented. A new Capacity Agreement with Waste Management Recycle America (WMRA) began in January 2009 with provisions to assure that sufficient capacity shall be available for SWALCO members. It also provides for a Per Ton Payment to members that direct material. It does not protect a members hauler from being assessed a per ton processing charge in down markets.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

R13	Encourage SWALCO members to direct their hauler to deliver their communities' recyclable material to the Recycle America Alliance MRF, or to another MRF where SWALCO has secured processing capacity, to avoid cost for processing.	Implemented. As of 2009, thirty two municipalities and one Township have elected to direct their haulers to deliver their communities' recyclable material to the Waste management Recycle America MRF.
R14	Acquire capacity in C&D processing facilities in Lake County.	Not yet implemented due to no C&D processors operating within the County/
R15	Pursue implementation of a C&D processing facility to provide processing capacity for SWALCO members.	Not implemented. SWALCO is developing model ordinance text for members to use when considering to permit a C&D processor within their municipal boundaries.
R16	Designate the C&D processing facility as an official component of SWALCO's waste disposal system and encourage all members to utilize the C&D processing facility for C&D projects within their municipal boundaries.	Partially implemented. No facility(s) has been designated. SWALCO members are encouraged to require their contractors to recycle C&D materials during the removal or development of municipal property.
R17	Explore the development of programs to reduce residential and commercial organic waste (such as yardwaste and food waste).	Implemented. SWALCO's Legislative Committee supported food scrap composting legislation which is awaiting the Governor's signature. Held preliminary discussions with several Lake County compost facility operators to discuss development of commercial food scrap composting operations.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

Household Chemical Waste Management	Recommendation	Status of Implementation
H1	Continue Operating a permanent Household Chemical Waste Collection Program, and raise or eliminate the financial cap from the IEPA	Implemented. Intergovernmental Agreement with the IEPA renewed on April 3, 2007. Financial Cap removed. Term of Agreement extend five years to April 3, 2012.
H2	Determine the feasibility of permitting the Household Chemical Waste Storage facility for use as a public drop-off location to supplement one-day collection events.	Implemented. HCW facility operations permit modified to allow for public drop-off effective November 14, 2006. First public drop-off event conducted in July 2007.
H3	Support and expand oil collection and Partner for Paint programs (i.e., Lake Zurich oil collection center, Ela Township Highway Department Paint program).	Implemented. Continued to provide technical assistance to Lake Zurich Oil Program and Ela Township Highway Dept. Partner for Paint program. New oil collection program established in Port Barrington in June 2007.
H4	Continue the corncob distribution program (for latex paint solidification) and seek new distribution points to be accompanied by in-store advertising and point-of-purchase displays.	Partially implemented. Corncob distribution program terminated in December 2006 due to contractor abuse. Corncob program originally developed to benefit the residential community, not for business use.
H5	Explore options and expand programs for used tire management (such as the use of tire chips for road bedding or alternative daily cover at a landfill) and consider the possibility of cosponsoring collections through the IEPA tire collection program.	Implemented. SWALCO teamed with the Lake County Farm Bureau to conduct a highly successful tire collection event in May 2008. Alternative uses for tire chips not explored. HCW Engineer's time was focused on SWALCO's hybrid HCW program consisting of mobile collection events and public drop-offs.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

H6	Obtain a list of Conditionally Exempt Small Quantity Generators (CESQGs), such as automotive repair centers, beauty salons, etc. from the Health Department and investigate options on how to assist them with hazardous materials management.	Not implemented. HCW Engineer's time was focused on SWALCO's hybrid HCW program consisting of mobile collection events and public drop-offs.
H7	Compile a listing of Lake County school districts and assist them, to the extent possible, with their chemical waste disposal needs. Identify environmental contractors and disposal programs such as the IEPA laboratory waste collection program.	Not implemented. Development of school districts not pursued. HCW Engineer's time was focused on SWALCO's hybrid HCW program consisting of mobile collection events and public drop-offs. SWALCO has a list of environmental contractors for business and institutional referrals.
H8	Consider the feasibility and implications of conducting one-day collection events in other northern Illinois counties.	Not implemented. Out of County collections never conducted. HCW Engineer's time was consumed on SWALCO's hybrid HCW program consisting of mobile collection events and public drop-offs.
H9	Explore feasibility of adding additional HCW satellite collection points at existing facilities (e.g. fire stations).	Partially implemented. SWALCO is pursuing a Satellite Collection Center at the Lincolnshire Riverwoods Fire Station # 51 in Lincolnshire. The Operations permit is anticipated to be issued in September 2009.
Landfilling	Recommendation	Status of Implementation
L1	Maintain contracts with the sanitary landfills serving Lake County to provide for privately-owned-and-operated landfill disposal capacity.	Implemented. Currently renegotiating with both WMI and Veolia to amend the existing agreements to provide for more disposal capacity guarantees, increased revenue potential and to provide for payment of the Affected Area Compensation Fee (AACF) directly to Lake County.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

L2	Implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.	Implemented. Amount of SWALCO waste landfilled continues to decrease.
L3	The design, operation, and monitoring of public or private landfills under contract to SWALCO should, at a minimum, comply with the most current RCRA Subtitle D regulations and other regulations adopted by the State of Illinois.	Implemented. SWALCO conducted audits for the Countryside and Zion Landfills and implemented a new self-audit procedure for both landfills for the calendar years 2006 and 2007.
L4	The siting criteria that appear in Section 7.0 of the 1989 Plan should serve as guidelines for selecting areas most suitable for solid waste management facility siting.	Implemented. This recommendation has been dropped from the 2009 Plan Update.
L5	Encourage landfill owners to design and implement landfill technologies such as leachate recirculation systems to extend life expectancy, reduce long term toxicity and conserve resources when possible and environmentally appropriate.	Implemented.
L6	Acquire additional landfill capacity for Lake County to meet waste disposal needs for a twenty(20) year period.	Not implemented. Currently renegotiating with both WMI and Veolia to amend the existing agreements to provide for more disposal capacity guarantees. Current capacity with both landfills has been exhausted. Capacity still remains with the Pheasant Run LF in Wisconsin.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

Emerging Technologies	Recommendation	Status of Implementation
E1	Monitor and evaluate emerging technologies that appear to be effective on a waste stream which is similar in quantity and composition to SWALCO's waste stream.	Partially implemented. SWALCO continues to evaluate emerging technologies and had guest speakers appear at a SWALCO meeting in 2009 to discuss emerging technologies including gasification of waste and anaerobic digestion.
Organization and Administration	Recommendation	Status of Implementation
O1	Continue the coordinated countywide approach to the management and disposal of all nonhazardous waste generated within the membership of SWALCO, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including industrial waste and construction and demolition debris.	Implemented. SWALCO initiated legislation (SB 125) that will encourage the development of C&D recycling facilities in Lake County. SWALCO also assisted Highland Park implement a successful commercial franchise that has already doubled the amount of recycling occurring in the commercial sector.
O2	SWALCO should continue providing centralized management of the plan implementation process and other municipalities should continue to be permitted to join SWALCO.	Implemented.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

O3	SWALCO members should assume responsibility for: (i) adopting recycling ordinances, (ii) adopting the model refuse collection franchise agreement, (iii) providing administrative and operational funding for SWALCO as determined by SWALCO Board of Directors and (iv) using the waste management and disposal system established by SWALCO.	Implemented. SWALCO members approved the implementation of an Operations and Maintenance (O&M) fee of \$1 per household per year in 2007. The O&M fee was collected in both 2008 and 2009.
O4	The Board of Directors shall provide for professional staff necessary to undertake all programs to implement the Solid Waste Plan. As programs are altered, it may be necessary to adjust staffing levels to implement program changes.	Implemented. Due to budget constraints the position of the Public Information Officer was reduced from full-time to part-time.
O5	Utilize "economic flow control" through the use of market competitive disposal rates to gain indirect control of the waste stream and monitor federal authority to enact legislative flow control.	Implemented.
O6	Maintain the use of designated Materials Recovery Facilities (MRFs) as an official component of SWALCO's waste management system and encourage all members to utilize MRFs for recoverables collected within their municipal boundaries; continue to establish and designate other components of the waste management system.	Implemented. SWALCO entered into a new agreement with WMRA effective January 1, 2009. The new agreement continues to designate the Grayslake MRF as an official component of the waste management system and provides for greater revenue for recyclables depending on market conditions.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

O7	Obtain input from the public in the development of solid waste policies, such as from a citizens advisory group.	Implemented. SWALCO conducted an open forum on commercial recycling in 2008 that was attended by numerous haulers and stakeholders. A new citizens advisory committee was formed in 2009 to assist with development of the 2009 Plan Update.
Finance and Ownership	Recommendation	Status of Implementation
F1	Monitor operations of the three sanitary landfills currently under agreement with SWALCO for the provision of a given amount of privately-owned-and-operated landfill disposal capacity, secured by public contract to deliver waste. Retain, as a long term option, the public ownership of landfill facilities to meet the disposal needs of Agency members.	Implemented. SWALCO has conducted audits at the two in-county landfills and is negotiating to obtain additional capacity guarantees from both in-county landfills.
F2	Examine and where determined appropriate, pursue all reasonably available sources of interim and long-term funding for implementing programs and facilities recommended in the Plan Update.	Implemented. SWALCO and Lake County entered into negotiations in 2009 to allow SWALCO to levy its own surcharge at the two in-county landfills. SWALCO also made revenue enhancement its top priority in its 2008 Legislative Policy.
F3	Apply to the Illinois Department of Commerce and Economic Opportunity Affairs for grants and loans to be used for capital assistance.	Implemented. SWALCO has provided letters of support for several applicants in Lake County.

Table 3.1 Implementation Status of the 2004 Plan Update Recommendations, cont'd

F4	SWALCO members should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.	Implemented.
Legislative Initiatives	Recommendation	Status of Implementation
I1	Utilize the SWALCO Legislative Committee to develop the annual Legislative Policy for approval by the Board of Directors. SWALCO's legislative efforts should be coordinated with Lake County and other entities.	Implemented. The legislative policy is developed by the Legislative Committee and approved by the SWALCO Board of Directors annually.
Host Community Benefit Agreements	Recommendation	Status of Implementation
A1	Any pollution control facility must enter into a Host Community Benefit Agreement with the appropriate units of local government.	Implemented. This recommendation was amended twice by SWALCO and the Lake County Board during the past five year planning period – May 13, 2008 and May 12, 2009.